

# MINES MINING

## COAL MEASURES OF WYOMING

Government Makes Report on the East-Central Carbon County Field.

The coal field on the western edge of the Rocky mountains in Wyoming, just east of the great Grand River field, was surveyed during the summer of 1906 by a party of government geologists, and a report on the work has just been issued by the United States geological survey as a chapter in bulletin No. 316, which forms Part II of "Contributions to Economic Geology, 1906."

The area studied lies at the point where the Rocky mountain ranges depart from their north-south course, so characteristic in Colorado, and swing westward across Wyoming to the Yellowstone national park. At this point of change of direction the mountains are broken into a number of dome and lozenge-shaped uplifts of greater or less extent and of considerable variation in trend, and the coal area of east-central Carbon county is thus a topographic and geologic basin, with an average altitude between 6,500 and 7,000 feet, almost entirely level, with a few small hills. The North Platte river crosses the area survey west of its center, its principal tributary within the district being the Medicine, which drains the northern quarter of the field.

The surveying party consisted of Messrs. A. C. Veatch, in charge, M. W. Ball, Max A. Fiesel and Spencer R. Logan. A large number of coal samples were collected and forwarded to the fuel-testing plant of the survey at St. Louis and subjected to analysis. The results of these analyses are incorporated in the report.

First Discoveries in 1843.

Coal was discovered in this area by Fremont in 1843, on Platte river, near the mouth of Snake creek, at a point now known as Coal Bluffs. In 1850, Lieutenant F. T. Bryan of the topographic corps of the United States army surveyed a road from Fort Riley to Bridger pass. He was accompanied by H. Engelmann, geologist, and they reported coal not only on Platte river, but north of the present village of Elk Mountain, near Medicine Bow river. Bryan reports that on Aug. 18, 1855, they camped for a few days on Platte river, and that he "rested the animals and burn coal for the force." The coal beds opened at this time were mined in a desultory way by emigrants and by the Overland Stage company, whose stage ran across the southern portion of this territory from the summer of 1852 until a short time after the completion of the Union Pacific railroad.

Regarding the commercial development of the coal in this region George R. Black, superintendent of the Union Pacific Coal company, states:

Early Day Operations.

"The first mines opened in Carbon county, Wyoming, and worked to any extent were opened by this company in 1888 and near the town of Carbon. The first one being abandoned in 1902. There were seven of them. While the coal is not of the best, it is still better than the coal in that vicinity would still be working had not the main line of the Union Pacific railroad passing through Carbon been vacated and taken to the north, where it passes through the Hanna coal. The mines at Dana, Carbon county, were opened in 1883 and abandoned in 1893 on account of the coal sparking too badly for locomotive use. The Hanna mines were opened in 1886 and are still in operation. The coals of this field range from poor to high-grade bituminous. They are as a rule bright, brittle and non-caking. The best coals in the area are found in the formation called by the geologists the Mesaverde, which is the source of the high-grade coals of the field in Routt county, Colorado.

The natural commercial market for coals from this section of Wyoming is limited on the east by Omaha, on the west by Rawlins, on the north by the Black Hills and on the south by Denver. The western outlet is today blocked to a large degree by the higher-grade coals of Sweetwater and Teton counties. At Denver the Carbon county coals come into competition with the Colorado coals, at Omaha with those of the interior basin, and at the Black Hills with the Newcastle and Sheridan coals. The development of the metalliferous nature of the ranges surrounding the basin may create a considerable local demand for this coal.

## KINDERGARTEN MILL BEING HURRIED ALONG

Construction work on the Kindergarten stamp mill is progressing rapidly under the management of A. Forsythe of Reno, says the Seven Troughs Miner. The grading and excavation work was finished last week and the foundation and retaining walls are now being built. Supplies are arriving rapidly enough to warrant the completion of the work on the scheduled time. The cement reached its destination last week and early this morning the mill tackle and paraphernalia were unloaded on the grounds. Lumber is arriving daily in readiness for the building as soon as the foundations are completed.

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## SIGNAL PEAK COITS MAIN VEIN

Six Hundred-Foot Tunnel in Seven Troughs Property Finally Reaches Contact.

The long-expected goal, for which the Signal Peak Mining company, operating on its ground on the high divide between Seven Troughs and Vernon, have been striving since last September, has been attained and the original contact vein of the company has been reached through the long tunnel 800 feet south of the shaft where last summer a body of high grade shipping ore was exposed, believed to be as promising as any in the camp.

The strike was made several days ago and indications point irresistibly to starting discoveries at a very early period. At present the vein shows up about five feet wide from the porphyry foot wall. The black dyke hanging wall with the values clear across and two feet of especially fine looking vein matter composed of quartz, quartz porphyry and talc identical in appearance with the vein matter in the shaft. There is enough fine looking quartz in the vein to insure the appearance of high grade values at any time. At present only two feet of the vein described can be classed as milling ore.

The vein was first encountered 200 feet from the entrance of the tunnel and at a depth of about 200 feet from the surface. Altogether about 600 feet of work has been done in the tunnel, two veins have been exposed and a third vein known as the Consolidated vein has been reached. It is all ore-bearing body coming in from the grounds of the Consolidated and paralleling the Signal Peak vein. It is about 400 feet to the east. It is believed to lie some 200 feet ahead of the farthest advanced face in the tunnel. The Consolidated people have already proved it to be a very promising ore-bearing body so that the Signal Peak company is looking for important discoveries. The Signal Peak company is a native of England and has operated in all the big mining camps of the world. For years he has been in the Johannesburg district, and is the inventor of the Denny process. Later he went to Australia and for several years has been in this country making a study of Cripple Creek and Nevada ore. He has been working on the Homestake and Los Angeles properties, and during the past several months has been quietly perfecting his new process at the Portland mill in Colorado City.

## ONE MORE GOLD CAMP BORN AND CHRISTENED

Jessup, the new mining district thirty-five miles southwest of Lovelock, continues to be the center of attraction for the prospector and investment seeker, and during the past week the influx of people has been larger than any time since the big rush was started. That the new district will make good and will sooner or later occupy a prominent position in the ranks of Nevada's great gold producing camps, is evident from the good reports that are coming in and from the numerous big strikes that have been recorded, says the Lovelock Tribune.

The citizens of the new section are keeping abreast of the times, characteristic of Nevada's bustling camps, and have organized a new mining district. The organization was effected last Saturday at a mass meeting held at the hotel. Practically every miner and prospector in the district attended the meeting. It was unanimously decided to christen the new district Jessup, in honor of Frank Jessup, one of the original locators. E. H. Francis was elected district recorder, Charles Murray was elected chairman and Mark Bradshaw was named as secretary.

White Canyon, the only town in the district, is growing rapidly and is early assuming metropolitan airs. The town now boasts of two restaurants, a bakery, lodging house, three saloons, a mercantile store and a hotel, and a feed yard. The first lots were placed on sale for \$5 each and it is reported that quite a number have been sold. Preparations are being made to erect several substantial buildings and in a short time the town will be a model of a new town, will be relegated to make room for modern structures.

Among some of the newest strikes that have been made in the district are those on the Coming Heir, the Portland and the Opperman-Van Valkenburg properties. On the Coming Heir, which is owned by Frank Bird of Vernon, a 20-foot ledge outcrops quite prominently. From a sample taken at the surface, the assay returns showed gold values to the tune of \$18. The Coming Heir was located last Saturday and so encouraged was Mr. Bird over the results of the assay that he has decided to commence development work at once. He left this morning for his property and expects to start work on a shaft next Monday.

Tom Frazier, who owns the Portland group, located about a mile north of the original strike, also has an extraordinary showing. On the Portland No. 2 a three and a half-foot ledge has been traced for a distance of 1,400 feet. Two hundred feet of this ledge has been traced by the panning process and the results are very encouraging. Work was recently started on the Hopkins property and at a depth of a very few feet in the shaft which is being sunk on the footwall side of the big ledge, an eight-inch pay streak was disclosed. The character of the rock is identical with that found on the Jessup-Murray property and the gold values are said to run better than \$15 to the ton.

F. H. Van Valkenburg, William Opperman and T. Cruise who own a group of claims a short distance north of the Jessup-Murray strike, left this morning with a full supply of tools and provisions. These gentlemen will do considerable trenching and when a desirable place is located a deep shaft will be sunk.

While doing the assessment work for this year, preparatory to the application for United States patent, on the Vesta mine, men in the employ of John Weber, the owner of the property, made one of the most important strikes that have been discovered in that section of the Robinson district, and one that has proven beyond a question of a doubt the existence and extension of the entire monzonite copper belt of the district to the north side of the canyon, says the Ely Mining Reporter.

Heretofore it has been the assumption that no sulphide ore of any commercial importance would be discovered on that side of the canyon. However, the strike made by Mr. Weber on the Vesta has completely upset this theory. It is a shaft forty feet deep, which is being sunk in a porphyry intrusion in the limestone foot wall of the Vesta mine, carrying iron pyrites and copper chalcocites, has been sunk through in the past few days with the bottom of the shaft today in an improved character of ore. No assays have yet been made, but it bears the appearance of the ores from the workings of the Nevada Consolidated and will probably carry better than 4 per cent copper.

The Vesta mine adjoins the property of the Ely Northern Copper company, in which some local people have a stock interest, acquired because of the merits of the ground. The strike of sulphide ore on the neighboring claim is gratifying news and will help to stimulate a better feeling in the Northern property.

## MORE MONEY IN LOW GRADE ORE

J. C. Clancy's Improved Cyanide Method Is Touted to Work Wonders.

A new cyanide process, previously mentioned in this department, and which eliminates the roasting feature has been put forward by J. C. Clancy of Colorado Springs and is destined, in the opinion of experts to revolutionize conditions in the Cripple Creek district and other mining camps in the west. In brief, it is claimed for the new process that it will effect a saving of \$2 a ton in the treatment of ore of a value of \$10 and less and from \$4 to \$5 a ton in higher grade ore. A ratio of from \$4 to \$5 per cent is recovered in gold values, nor are refractory ores barred from treatment with the new process.

The secret of Clancy's process lies in the fact that it eliminates the roasting which has been the bugaboo of ore treatment in the Cripple Creek camp. The process eliminates sulpho-tellurides at a minimum cost, and so impresses the big mining men of the district with Clancy's claim that they are now backing him, and several mills are in contemplation of erection.

No less a corporation than the Portland Gold Mining company is behind Clancy. For several weeks the company has been secretly testing his process at its mill in Colorado City and the test is said to have passed the experimental stage to a point where the company has virtually decided to adopt his system at its mill. President Irving Howbert admitted tonight that Clancy had called the company's attention to a process that is receiving serious consideration, but declined to go into details, explaining that the company was not yet ready to make public the details of the process or its intentions with reference to adopting it. From other sources it was learned that there is no longer any doubt of its merit and that the Portland company purposes to test it without further delay at the Colorado City mill.

Clancy is a native of England and has operated in all the big mining camps of the world. For years he has been in the Johannesburg district, and is the inventor of the Denny process. Later he went to Australia and for several years has been in this country making a study of Cripple Creek and Nevada ore. He has been working on the Homestake and Los Angeles properties, and during the past several months has been quietly perfecting his new process at the Portland mill in Colorado City.

## TUSCARORA'S BIG CO. IS FINALLY FINANCED

The Elko Free Press states that a prominent mining operator of that place has received word from Boston that the Tuscarora Nevada Mines company has been finally financed and that it is but a matter of a few days until the money will be available for the company. It is rounding out of this company's enterprise is expected to stimulate other mining propositions in the Tuscarora field. In reviewing the plans of the big company the paper goes on to say:

"It is a grand news for both Tuscarora and Elko. The plans of the Tuscarora Nevada people include: 1. The sinking of a deep four-compartment and other shafts into the building of large mills; 2. The building of a large power plant; 3. The building of a railroad from Elko to Tuscarora besides other work. "William A. Farish in his recommendations to the Tuscarora Nevada company state that he made his examination a little over a year ago said: "I would recommend the immediate rebuilding of the power plant, and the placing of concentrators and additional machinery in the present forty-stamp mill for the purpose of reducing or concentrating the silver ore on the dumps of the new several mines, as well as to test the ores as developments are made upon the various mines pending the time when you will be ready to erect the reducing plant of not less than 1,000 tons per day and more probably one of 2,000 tons per day. In fact, in my opinion, within two years after operations commence the mines will be in a position to produce at a minimum cost not less than 4,000 tons per day."

"With Tuscarora as the largest producing camp in the state, the plan to forge to the front. The buildings and improvements contemplated or now under way in Elko make the expenditure within the coming twelve months of over \$100,000."

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## PERSONAL EQUATION IN MINE SAMPLING

A great deal has been written about taking a sample in the process of examining a mine, says Mining Science of Denver. The accepted method is to chisel a channel across the face to be sampled, using a hammer and mill as tools and catching the sample either in a box or on a canvas sheet. Such great emphasis has been given this method that the courts have given it legal recognition, and he would be a foolish engineer who would take samples in any other way—for court work.

In all the discussions of sampling the essence of the thing seems to have been completely lost sight of in discussing tools and methods, and the essence of sampling is satisfied or his patience exasperated. Now the idea of channeling a trench of uniform cross-section across a face of ore is in many cases ridiculous. Consider such a face as is often found in the breccia ore of Cripple Creek. It is obviously impossible to chisel a channel of uniform cross-section across such a rough face.

What really happens in sampling such a face is that the sampler gets a series of chunks and a medley of fines. He breaks the bigger chunks, putting the smaller pieces in the sample, and so on, until he is satisfied or his patience exasperated. He scrapes out fines from the cracks in one case and throws away a part of those in another case, and so on, another case—again, doing this or that, as his judgment dictates.

In brief, the judgment of the sampler is the only thing that counts. The mechanical means employed ten per cent. A fair-minded man, who is also a good judge of rock, can take a thoroughly reliable sample with a dull candlestick.

## THE HERALD IN NEVADA.

The Herald can be bought at the following places in Nevada: Lovelock—Charles H. Baker. Tuscarora—Mrs. A. L. Clark. Tenipah—Lester Trotter. Reno—Rosenthal & Armarko. Verington—G. E. Leavitt. Goldfield—Palace News Stand and Hunter Adv. & Pub. Co. Ely—Harville Stat. Co. T. B. Faxon and Walden & Burnett. Rhyolite—Goodrich Book & Stat. Co. Caliente—John Shier. Delamar—J. M. Kelly. Pioche—Pioche Drug Co. and A. A. Carman, P. M. Cochrane—Richard Richards.

While a man of poor judgment cannot be relied upon to take a dependable sample with any means known to the profession. Furthermore, there is no method of sampling in which prejudice—which is the opposite but in this case the counterpart of fair-minded judgment—cannot manifest itself. This is strikingly brought out in the mining lawsuits. Two men will channel across the same face and, to view the channels, both look fair; yet, one will run high and the other low, according to the desires of the sampler. Like many another matter, the personal equation is the important matter. Sampling is a question of the man rather than the method.

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